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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/673,346	LYON, RICHARD K.	
	Examiner Basia Ridley <i>BR</i>	Art Unit 1764	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to \_\_\_\_\_.
2.  The allowed claim(s) is/are 1-5 and 7-10.
3.  The drawings filed on 30 September 2003 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 093003,011204
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

*Basia Ridley*  
Examiner 1764

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. James Hosmer on 13 December 2004.

The application has been amended as follows:

#### **In the claims:**

Claim 6 was cancelled.

In claim 2, line 1: "claim 11" was deleted and replaced with --claim1--;

In claim 3, line 1: "claim 11" was deleted and replaced with --claim1--;

In claim 4, line 1: "claim 11" was deleted and replaced with --claim1--;

In claim 5, line 1: "claim 11" was deleted and replaced with --claim1--;

In claim 7, line 1: "claim 11" was deleted and replaced with --claim1--;

In claim 8, line 1: "claim 11" was deleted and replaced with --claim1--;

In claim 9, line 1: "claim 11" was deleted and replaced with --claim1--;

In claim 10, line 1: "claim 11" was deleted and replaced with --claim1--.

#### **In the specification:**

Title was replaced with --An Apparatus For Converting Coal Into Fuel Cell Quality Hydrogen And Sequestration-Ready Carbon Dioxide--.

In the abstract, line 1: "A process" was deleted and replaced with --An apparatus--;

lines 4-5: "turbines characterized by using a combination of" was deleted and replaced with --turbines. The apparatus includes--;

lines 6-7: "reactor, the first reactor being" was deleted and replaced with --reactor. The first reactor is--;

lines 8-9: "reactor, the second reactor being" was deleted and replaced with --reactor. The second reactor is--;

line 10: "reactor being" was deleted and replaced with --reactor is--;

line 12: after "containing" inserted --coal,--;

line 14: deleted "The coal is";

lines 15-24: deleted in their entirety.

In [0001] line 2: deleted "2001." and inserted --2001, now U.S. Patent No. 6,669,917.--

2. The following is an examiner's statement of reasons for allowance:

The closes prior art is Moss (USP 3,807,090) and Leas (USP 5,776,212). Moss discloses an apparatus comprising two fluidized bed reactors containing a mixture of circulating solids containing coal CaO, and/or MgO in presence of alumina and iron (see abstract, C1/L7-17 and Fig. 9). Leas discloses an apparatus comprising a gasification reactor having an inner gasification zone, an outer steam gasification zone, a synthetic coal reaction zone, and an upper line treating zone, a synthetic coal heating vessel and limestone treating vessel (see abstract, C5/L15-C8/L27 and Fig. 1).

However, the prior art does not disclose, teach or suggest an apparatus consisting of first, second and third reactors containing a mixture of fluidized solids circulating among all three reactors, said circulating solids containing coal, calcium compounds present as CaO, CaCO<sub>3</sub> and mixtures thereof, and iron compounds present as FeO, Fe<sub>2</sub>O<sub>3</sub> and mixtures thereof as recited in the instant claims. Nor there is any motivation in the prior art to modify the apparatus of Leas or Moss to arrive at instantly

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claimed apparatus. Therefore, the claim combination reciting the apparatus consisting of first, second and third reactors containing a mixture of fluidized solids circulating among all three reactors, said circulating solids containing coal, calcium compounds present as CaO, CaCO<sub>3</sub> and mixtures thereof, and iron compounds present as FeO, Fe<sub>2</sub>O<sub>3</sub> and mixtures thereof, is allowable over the prior art of record.

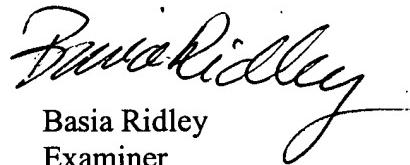
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Basia Ridley, whose telephone number is (571) 272-1453.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on (571) 272-1444.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Technical Center 1700 General Information Telephone No. is (571) 272-1700. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Questions on access to the Private PAIR system should be directed to the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).



Basia Ridley  
Examiner  
Art Unit 1764

BR

December 13, 2004